



Technical

Discussions

XVI Meeting

Washington, D. C.
September-October 1965

XVII Meeting



Provisional Agenda Item 19

CD16/DT/7 (Eng.)
27 September 1965
ORIGINAL: SPANISH

METHODS OF IMPROVING VITAL AND HEALTH STATISTICS

Seventh Working Document

MEASURES TO IMPROVE THE EFFICIENCY OF SYSTEMS FOR PRODUCING
VITAL AND HEALTH STATISTICS

by

Alberto E. Calvo, S., M.D., M.P.H.
Director General, Public Health Department, Panama

MEASURES TO IMPROVE THE EFFICIENCY OF SYSTEMS FOR PRODUCING
VITAL AND HEALTH STATISTICS

Alberto E. Calvo, S., M.D., M.P.H.
Director General, Public Health Department, Panama

PRESENT STATUS

In general there exists concern over the effectiveness, practical utilization and timeliness of the health statistics being produced in the countries of the Americas, especially in the developing countries. This concern is based primarily on the following two factors:

1. The rapid progress of techniques and methods of planning and programming is in contrast to the slow development of systems for producing statistics, to the extent that planning has to take place disregarding the traditional statistical operations because in most cases the statistics are of little value.
2. The increasing complexity of programs and services in the health sector, as well as in other public sectors, is resulting in a tremendous amount of data recorded in an interminable proliferation of forms, a large portion of which do not contribute significantly towards the fulfillment of predetermined goals. Generally this leads to the following two tendencies:
 - a. Establishment of central offices for processing statistics, overabundantly supplied with costly equipment;
 - b. Production of masses of low-quality data as the result of deficient local resources and poor systems for the collection of data.

These factors contribute to increase the distortion in statistical soundness for evaluating the progress and efficiency of the program and the gradual solution of the problems.

3. The tendency to use complex forms for data collection at all levels with the main purpose of increasing coverage at the cost of quality leads to still another distortion, namely, the accumulation of data which are not comparable due to differences in technical ability of those registering or collecting the data. Added to this there is the tendency to include on the forms data of no real value simply because they are easy to obtain.
4. The differences in criteria for measurements intended for planning, programming, and evaluation activities, are giving rise to an increased demand for other types of indicators of the traditional ones of natality, mortality and morbidity. While the systems for collecting and processing such traditional data have not even reached a minimum degree of

suitability, the data needed for economic evaluation of results of health programs and expressed in a cost-effect relationship still need to be developed.

5. The lack of suitable coordination in the technical agencies responsible for vital and health service statistics, both public and private, and the typical organization existing in most public health departments, make it difficult, if not impossible, to visualize a system of vital and health statistics based on comparable criteria for each country.
6. The lack of integration in practice of the statistician in the programs with those working at the various levels could create a gap between statistical activities and those of the health services, and could delay the essential motivation which every official working in health programs must have to participate actively in the statistical process. The idea that the recording of statistical data is of little importance or secondary, seems to prevail generally. Except for purely administrative records, which bear the stamp of authority and for which trained personnel is usually available, the registration of vital statistics and program recording would not seem to be obligatory. They are being kept merely as a tradition, without establishing whether or not it is worthwhile to continue them.
7. The absence of a statistical attitude or simply of a concern for rationally evaluating the problems and the efforts to solve them may possibly constitute the main reason for the little use of statistics as a daily working tool. Therefore the demand for statistics of good quality is not high, either because there is not sufficient motivation for their use or because there is an "a priori" mistrust of their reliability.

NEED TO CONSOLIDATE EFFORTS

In view of this critical situation there is a consensus of opinion that a new direction must be given to the existing systems of vital and health statistics considering the following:

That the numerical expression of a vital fact as an index for evaluating the achievements obtained through health activities is acquiring increasing importance each day.

That the recent incorporation of health planning and programming in health as a component of the social and economic development plans of the countries has brought out how much must be done to achieve the goal of efficient systems of health statistics in this hemisphere without which the planning and rational implementation of the programs is difficult.

That due to the accelerated rate at which health techniques and methods are developing, the traditional objectives for vital and health service

statistics are changing, or expanding to far more interesting areas for evaluating health activities.

That in spite of the fact that statistical methodology applied to health has advanced and that great efforts have been made by the countries and by international agencies to improve or change the traditional statistical methods through the use of new techniques, overall improvement is slow and very localized. It would seem as if the achievements made to date have consisted of producing a refined system capable of mass production of data based on poorly developed raw material of doubtful quality for a consumer market which consists of a small, highly demanding sector, and a large indifferently sector.

A continent-wide operation to improve the efficiency of systems for production of vital and health statistics becomes imperative at this time, in the form of an intensive and continuous effort on the part of the countries of this hemisphere. Such an operation could take for its direction as the starting point the following approaches:

1. Vital and health statistics are a basic component in the planning and implementation of health programs, and the activities in this field therefore should be integrated with health activities and should receive the highest priority.
2. Vital and health statistics should have practical and established purposes, and not the objective of "data collection for publication."
3. Every health activity at all levels represents to a greater or lesser degree a statistical action. For continuing awareness of this statistical action, a statistical attitude must be developed in all technical and professional personnel. The concept that statistical activities are incumbent only on statisticians will therefore have to be changed to the concept that statistical activities are incumbent on every member of the health team. The conscientious participation of all concerned should improve the production of statistics and their consumption.
4. To the extent that a product is complex to produce, it increases in cost and limits consumption. Therefore, in order to produce vital and health statistics that will have a high consumption and usefulness, it is necessary to reduce their complexity both in production and final product. The aim should be to the definition of the statistical subject related to plans and programs, and to simplification of the methods and techniques; to systematization based on suitable standards and to elimination of any extraneous factor, procedure or element according to the objectives for which the statistics are being produced; and to addition of factors, procedures or elements not previously considered but are pertinent to the objectives for which these statistics are being produced.

5. In the same way as vital phenomena and all other processes relating directly to health are better defined at the local level, the collection of data on such phenomena and processes should take place at the local level. The standards for data collection should therefore be adjusted to local resources, and be gradually developed as the resources improve. Since this has been a slow process and since in all countries there are different degrees of development within their own geographical structure, it becomes necessary to implement in clearly defined stages a national program for improvement of vital and health statistics, in which the local level should receive high priority during the first stages.
6. In order that the action of an urgent program be effective in a short time, experience indicates (malaria eradication, water supply) that it be given a vertical structure. Consideration should be given to the need for a vertical structure for the improvement of statistics, and health statistics in particular, at least during the first stages, until such time as the consolidation of suitable systems planned for the program has been achieved.
7. Since there are several agencies which produce vital and health statistics, especially at the national level, duplication should be avoided. At the national level the program must utilize the most effective means of coordination, based on the following decisions:
 - a. If the vital statistics are processed in agencies not belonging to the health ministries and have an efficient technical organization, activities should be oriented towards cooperation with all other agencies in order to improve such statistics in both quantity and quality. Such cooperative efforts should be aimed at producing high level statistics which will be useful to both the private and public sector, and particularly for their use in health programs. If vital statistics are being produced outside the health ministry with little efficiency, then the recommendation should be to incorporate the activity into the ministry.
 - b. Health statistics should be the responsibility of the health ministry, and data collection and processing of both public and private institutions and programs up to the time of their publication should be the responsibility of the health departments of the ministries. Efforts at coordination should be made in order to facilitate the maximum improvement of health statistics, chiefly to provide this working tool to health programs.
 - c. At the local level an attempt should be made to go beyond coordination and the approach should aim at integrating both kinds of statistics by using the local health unit as a filter for both, and specially for improving the quality of data.

- d. The fundamental need for coordination at the national level makes it necessary to establish the oft recommended National Committees of Statistics. A practical step would be to ensure the effectiveness of these committees by emphasizing their role as a Coordinating Committee for Vital and Health Statistics. The establishment of local committees at the level of health institutions would fulfill both the purpose of improving data collection and the attitude toward their use.

National and local coordinating committees at the level of planning agencies and other technical groups engaged in establishing health policy should produce a continuous catalytic effect and in fact constitute the nervous system for the entire implementation of the program for the improvement of vital and health statistics.

SCHEME FOR THE DEVELOPMENT OF THE PROGRAM BY STAGES

These approaches may be more clearly seen when a systematic method, by stages, is being planned. Possibly this approach may not be applicable in all countries, but it will give at least a basic idea on the points and their order. Unquestionably the gradual development of one stage after the other is basically dependent on the human resources available at a given time. Therefore, a program of training at central and local levels ranging from the fundamentals of statistical information for the entire health staff to the complex courses for key technical personnel should be planned efficiently and promptly in the first steps. The present paper does not include the analysis of this highly important part of the program.

STAGE I

General Purpose: A preliminary study of the status of vital and health statistics with a view to objectively establishing the existing efficiency or deficiency and the causes.

Participants: A working party composed of staff from the Ministry of Health and other public agencies, from the private sector, and from autonomous institutions, National Coordination Group composed of one or more representatives of each of these groups, and international advisers.

Goals:

- 1) To present within a period not exceeding four months basic recommendations aimed at facilitating the rapid progress to the second stage. Minimum goals should be as follows:

A review of the objectives of vital and health statistics, based on the following possibilities:

- a. Reliable character of basic vital facts as true indicators of changes occurring in the communities and in the entire country.
- b. Objective and highly accurate presentation of facts pertaining to health programs and services, their technical aspects, and use of resources to permit evaluating such items as:

Changes in health levels.

Achievements through implementation of efforts to meet health needs and demands.

Per unit efficiency in investment of funds, time, personnel, etc.

Detection of unfulfilled needs, unnecessary activities, etc.

- c. Community education and objective information to public and private agencies concerned with making health decisions.
 - d. Stimulation or alerting of those who are responsible for health programs and services.
 - e. General production of basic data of high quality for the continuing process of health planning as projected in the general economic and social development plan of the countries, for all phases of evaluation, for research, and for international comparisons.
- 2) Precise determination of the sphere of activity of each agency.
 - 3) A program plan for the improvement of vital and health statistics that will take into account the proposed objectives.
 - 4) Standards for coordination at the national level.
 - 5) Determination of the necessary advisory services.

STAGE II

General Purpose: Definition of the national policy regarding improvement of vital and health statistics as part of the national program and initiation of certain areas for conducting the program.

Participants: National Coordinating Group; working parties from participating agencies including local ones; key technical personnel from vital and health statistics offices; and international advisers.

Goals:

- 1) To present the national program as a product of the participation of all the groups enumerated and the proposed goals for the first year of implementation, with emphasis on the training of local auxiliary personnel.
- 2) Preparation of a preliminary manual, which should include:
 - a. Definition of terms which will permit standardization of words and terms now used indiscriminately (for example: case, case under control, medical care, family, clinic service, etc.).
 - b. Methods and levels for collecting statistical data aimed at simplification and accuracy including a revision of forms in order to:

Increase in quantity, and on a nation-wide scale, the collection of minimum statistical data which do not require great effort or special training. Consideration should be given to using the rural teacher as a data collector. When collection is carried out at the lowest level one should not expect to collect more than the simplest information such as: the fact of death or birth, age, sex, date and place. As the level of collection increases and the health service organizations participate, minimum data expand and become better.

Improve the quality through direct efforts at health agencies and by establishing pilot areas in which practices to improve the entire health program are being implemented.
 - c. Standards of coordination.
 - d. Standards of supervision and statistical auditing.
 - e. Method for establishing the flow of crude data from the collection level to the final processing level, including the mechanism for prompt use by health services while central processing continues.
- 3) Initiation of the study to establish evaluation methods aimed at measuring the goals in accordance with the proposed goals, starting from the initial sources of information. This study should include methods for establishing the initial base of statistical information, the determination of indicators and criteria for selecting the appropriate data which are to be included on the statistical forms according to the levels and progress in coverage and to the degree of vulnerability of the groups demanding health services.
- 4) Selection of one or more experimental pilot or demonstration areas, which in addition to serving the intensive action of the proposed program, should be used for all activities aimed at improving the efficiency of health services and programs. Initiation of the activities in the pilot

area or areas with the establishment of the initial basic statistical information, by using the survey or sampling method. In initiation of the minimum training program, a trained statistician should be assigned and/or international advisory services should be secured.

- 5) Initiation of some activities in the remainder of the country, with the application of methods aimed at simplifying the collection of minimum statistical data.
- 6) Initiation of the activities aimed at promoting coordination at the central level.

This stage should last a maximum of six months.

STAGE III

General Purpose: Intensive development of the program in pilot or registration areas, and if results permit, gradual extension of the program in one or more areas; consolidation of coordinating activities at the central level, and application of the method of minimum statistical data collection in rural areas.

Participants: All those who participated in the previous stages, all personnel from the pilot or registration area, auxiliaries for collection of data in rural areas and the international advisers.

Goals:

- 1) The establishment of methods of coordination with permit measuring significant improvement at the end of this stage both in the quantity, quality and accuracy of the data collected. Among alternatives to be put into practice, the use by health agencies of the statistical form should be established as an intermediate step before statistics reach the national level, and/or sending of monthly tabulated lists from the central to the local level to verify the data and take the actions aimed at improving their quality and filling any voids which may be found. Statistical audit from the central level.
- 2) Development of methods of collection and use of vital and health statistics in the pilot or registration area. As a minimum this should include:
 - a. A definition of standards, indicators, criteria for selecting items to include on the forms which are part of the proposed system planned for the country, and development of methods of evaluation.
 - b. Methods to improve collected data on the vital statistics forms and prompt use of such data to increase the services offered and the programs. (For example, birth certificates for child health programs)

- c. Trials of statistical forms, aimed at integrating information on visits by programs as a way to assure participation by all members of the health team in collecting data on a single form.
 - d. Units of minimum training for auxiliary personnel outside the basic institution, such as nursing auxiliaries, untrained midwives, clerical workers, and especially rural teachers.
 - e. First evaluation of the program in the pilot area or areas at the end of this stage, using as a level or reference the initial basic statistical information, the objectives, and the proposed goals.
- 3) Initiation of extension of the program to one or more areas of the country, applying the experience gained in the pilot or registration area. For this extension, each area selected should meet the requirements of the original pilot area.
 - 4) Consolidation of the collection of minimum statistical data in rural areas throughout the country.

This stage should last a maximum of one year.

STAGE IV

General Purpose: Consolidation of the methods and standards with gradual extension of the program to the entire country, and promptly applying the changes or adjustments which experience may indicate.

Participants: All those who participated in the previous stages, and the staff of the area which is gradually being developed, and all the trained auxiliary personnel and the international advisers.

Goals:

- 1) Development of the central organization for the suitable processing of vital and health statistics.
- 2) Formal publication of the statistics produced by method applied in the program to improve statistics together with an analysis which will take as its frame of reference the quality of the statistics produced before institution of the program.
- 3) Gradual incorporation of all areas of the country into the program to improve statistics.
- 4) Annual evaluation.

The duration of this stage will depend on the size of the country but should not exceed three years. The fifth stage would be continuous and its purpose would be to maintain high efficiency in producing vital and health statistics.

As a final point it should be emphasized that the development of a program of this kind has to be conducted not only parallel to but completely integrated with the remaining health programs for which the statistics are being processed and whose efficiency is being measured throughout its application and by the achievements made. For this reason the program will have to be subject to changes and adjustments in method and organization in the measure that the health plans, programs, and services improve and evolve under the general directives of economic and social development in the countries.